REMARKS

This amendment is being submitted in response to the Office Action dated April 28, 2006. In the Office Action, claims 1-4, 7-23, 25-34 and 36-42 were rejected. Reconsideration and allowance of all pending claims are requested in light of the above amendments and in view of the arguments herein below.

Rejections Under 35 U.S.C. §102

Claims 1-4, 7, 11, 13-23, 33 and 37 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,089,096 (hereinafter "Alexandru"). Claim 1, 18 and 37 are independent. All of the recited claims are believed to be patentable as cited below.

Claims 1, 18 and 37 and Claims Depending Therefrom.

The Examiner argued that Alexandru is believed to teach a two-dimensional imaging array having variable focusing abilities in both the azimuthal and elevational directions and an adjustable aperture. The Examiner cited the Background of the Invention section of Alexandru in support of the rejection. More particularly, the Examiner cited passages at col. 2, lines 48-56 in support of the rejection.

Alexandru fails to teach a two-dimensional imaging array having variable focusing abilities in *both* the azimuthal and elevational directions.

Applicants have carefully reviewed Alexandru and reiterate that Alexandru fails to teach a two-dimensional imaging array having variable focusing abilities in *both* the *azimuthal and elevational directions*. Applicants reiterate that Alexandru teaches changing the pattern of the energized elements for each imaging zone to permit reduction in the number of beamformer channels required to operate the aperture by switching or reallocating the beamformer channels from one element to another element when switching between imaging zones. Furthermore, Applicants submit that Alexandru

teaches expanding the aperture in the azimuthal plane. However, Alexandru fails to teach manipulating the transducer elements in the *elevational* plane.

In contrast, in the invention claimed in the present application, the transducer elements are manipulated in *both* the *azimuthal* and *elevational* directions. More particularly, the transducer elements are manipulated both in the azimuthal and elevational directions to form an ultrasonic scanning beam configured to produce focal zones in the azimuth-depth and elevational directions.

Furthermore, the Examiner also acknowledged that depth-variable elevational and azimuthal focusing by combining electronic beamforming and fixed mechanical lens is the novelty of the present invention:

> Although depth-variable elevational and azimuthal focusing by combining electronic beamforming and fixed mechanical lens (or element shaping) is the novelty of the invention,...
>
> Office Action, page 3, lines 5-9.

The Examiner, then, wrongly concluded in the same passage that:

> it is clearly a modification and simplification of the known variable electronic 2D arrays mentioned in the background of the invention stated in column 2, lines 20+, where it is stated that "variable elevation focal depth can be achieved by constructing 2-dimensional arrays (2D arrays) of small square elements in connection them [sic] to independent beamformer channels, thus providing electronic focusing in both the azimuthal and elevational directions. This method, however, requires a number of beamformer channels that is prohibitively expensive.
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> Office Action, page 3, lines 9-15.

Applicants note first that the rejection is *improper on its face*. The Examiner is reminded that the rejection formulated in the Office Action is based upon 35 U.S.C.

§102(b). If the Examiner intends to base a rejection upon a combination of purported admissions and the Alexandru reference, or based upon an "obvious" extension of the Alexandru reference, Applicants would request that such a rejection be clearly formulated in a subsequent non-Final Office Action. At present, it is clear that Alexandru does not anticipate the rejected claims, and Applicants argue first on that basis alone.

Moreover, the Examiner's statement is simply incorrect. It is difficult to understand exactly how the Examiner interprets the recited technique as being a "simplification" of existing 2D arrays. The technique is based upon using a 2D array, but in a manner that has not been done in the past. Indeed, the modulation of the 2D array, and the independently addressable and controllable nature of the elements for formation of a scanning beam in azimuthal and elevational directions is at the heart of the claimed invention. These features were not present in the prior art, including that prior art summarized in the background of the present application.

Here again, Applicants would stress that to constitute an anticipatory reference, the prior art must contain an enabling disclosure of all elements of the claims under consideration. As the cited passages in Alexandru, and indeed the reference as a whole, fail to teach or suggest each and every element in independent claims 1, 18 and 37, Applicants respectfully submit that the rejection formulated by the Examiner is not a proper 35 U.S.C. §102 rejection.

For the reasons summarized hereinabove, Applicants respectfully submit that the references relied upon by the Examiner cannot support a *prima facie* case of anticipation of claims 1, 18 and 37. Accordingly, independent claims 1, 18 and 37 and claims depending therefrom are believed to be allowable.

Rejections Under 35 U.S.C. §103

Claims 34, 36 and 41-42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Alexandru as applied to claims 1-4, 7, 11, 13-23, 33 and 37-38, and further in view of Applicants' purported admissions.

Claims 8-10 and 27-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Alexandru as applied to claims 7 and 18, and further in view of U.S. Patent No. 5,305,756 (hereinafter "Entrekin").

Claims 25-26 and 39-40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Alexandru as applied to claims 18 and 37, and further in view of U.S. Patent No. 4,890,268 (hereinafter "Smith").

Applicants submit that claims 8-10 depend directly or indirectly from independent claim 1. Accordingly, claims 8-10 are allowable by virtue of their dependency from an allowable base claim, as well as for the subject matter they separately recite. Thus, it is respectfully requested that the rejection of claims 8-10 under 35 U.S.C 103(a) be withdrawn.

Further, claims 25-26, 27-32, 34 and 36 depend directly or indirectly on independent claim 18. Accordingly, claims 25-26, 27-32, 34 and 36 are allowable by virtue of their dependency from an allowable base claim, as well as for the subject matter they separately recite. Thus, it is respectfully requested that the rejection of claims 25-26, 27-32, 34 and 36 under 35 U.S.C 103(a) be withdrawn.

Also, claims 39-40 and 41-42 depend directly or indirectly on independent claim 37. Accordingly, claims 39-40 and 41-42 are allowable by virtue of their dependency from an allowable base claim, as well as for the subject matter they separately recite. Thus, it is respectfully requested that the rejection of claims 39-40 and 41-42 under 35 U.S.C 103(a) be withdrawn.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: 7/28/2006

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